

### **REMARKS**

Claims 7-45 are pending in this application. In the last Office Action, the Examiner rejected claims 1-9, 11-17, 23-25, 28-30, and 32-45, and objected to claims 10, 18-22, 26-27, and 31. Applicant has amended claims 7, 38, and 45 in order to better define the claimed invention. Claims 1-6 had been canceled in a previous amendment. Applicant herein traverses the Examiner's rejections of the claims.

### **Interview**

Applicant thanks the Examiner for spending the time to discuss the proposed amendment to the claims in this application and the claims of the related application U.S. Application Serial No. 09/904,432 (the '432 application), from which this application claims priority. The phone interview was held on February 15, 2007, and was attended by Examiner Williams, Gary J. Edwards, and Peter J. Sallaway.

In particular, the McHale reference, which is further discussed below, was discussed with respect to the claims of the present application and those that have been allowed in the '432 application. The teachings of the McHale reference in relation to the proposed amendments to the claims presented here were discussed.

Additionally, the Examiner requested that a terminal disclaimer be filed in the present application with regard to the '432 application. Accordingly, a terminal disclaimer is filed concurrently with the present amendment.

### **Claim Rejections under 35 U.S.C. § 103**

#### **Claims 7, 38, and 44**

The Examiner rejected claims 7, 38, and 44 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,781,617 (“McHale”) in view of U.S. Patent No. 5,822,368 (“Wang”).

McHale teaches “[a] communication server (58) [that] includes a plurality of pairs of frequency agile modulators (638) and demodulators (640) each set to operate at a unique frequency and associated with a twisted pair data line (54).” (McHale, abstract). As shown in Figure 1 of Mchale, Mchale teaches

a communication system 10 that provides both telephone and data service to a subscriber 12. A central office 14 is coupled to subscriber 12 using subscriber line 16. In operation, central office 14 provides telephone and data service to subscriber 12 using subscriber line 16. Subscriber line 16 supports simultaneous telephone and data service using twisted pair wiring.

(McHale, col. 4, lines 40-46). In addition, “[c]ommunication system 10 includes numerous other twisted pair subscriber lines 16 coupled to other subscribers 12.” (McHale, col. 5, lines 22-24). As further shown in Figure 1, “[c]entral office 14 includes a splitter 60 coupled to subscriber line 16 . . . [that] . . . divides subscriber line 16 into a twisted pair phone line 52 and a twisted pair data line 54.” (McHale, col. 5, lines 50-54). Further, “communication server 58 is coupled to splitter 50 using data line 54.” (McHale, col. 5, lines 64-65). Additionally, “[c]ommunications server 58 multiplexes modem digital outputs into a multiplexed digital line 62 for delivery to a router or other network device 60.” (McHale, col. 6, lines 26-28). Figure 13A, which is cited by the Examiner as teaching certain elements of claim 7, “illustrates in more detail a frequency multiplexing implementation for switching modem connections in communications server 58.” (McHale, col. 19, lines 64-66). In particular,

[a]s shown, data lines 54 are coupled to receiver/buffers 630 and transmit/buffers 632. . . . For each data line 54, communications server 58 includes a frequency agile modulator 638 and a frequency agile demodulator 640. Each modulator 638 operates to modulate an incoming analog signal at a selectable frequency. In the illustrated embodiment, the frequency is set to one of a plurality of frequencies,  $f_1$  to  $f_N$ , equal in number to the number of available modems. Similarly, each demodulator 640 operates to demodulate at a selectable frequency where the frequency is set to one of the plurality of frequencies,  $f_1$  to  $f_N$ . Associated modulators 638 and demodulators 640 are set to operate at the same frequency.

(McHale, col. 20, lines 2-16). Therefore, MCHale teaches that the analog data signals from each subscriber is modulated by one of the frequencies and transmitted to a matched demodulator.

McHale's teaching of a system where each subscriber is independently transmitted to one of several digital modems by modulating the signal from each subscriber by a different frequency, is very different from the invention claimed in claims 7, 38, and 45. In particular, MCHale does not teach "A serial/deserializer transmission system . . . wherein the plurality of demodulators recover a plurality of bits synchronously distributed across the plurality of transmission bands in the serial/deserializer transmission system," as is recited in claim 7, "a plurality of bits having been encoded and transmitted across the plurality of transmission bands . . . wherein the plurality of bits synchronously transmitted across the plurality of transmission bands of the serial/deserializer system is recovered," as is recited in claim 38, or "a receiver system in a serial/deserializer system . . . wherein a plurality of bits that were synchronously transmitted across the plurality of transmission bands is recovered," as is recited in claim 45. Wang does not cure the defects in the teachings of MCHale.

Therefore, claims 7, 38, and 45 are allowable over the combination of MCHale and Wang. Claim 44, which depends from claim 38, is allowable over the combination of MCHale and Wang for at least the same reasons as is claim 38.

### **Claims 8-9, and 15-17**

The Examiner rejected claims 8-9 and 15-17 under 35 U.S.C. § 103(a) as being unpatentable over McHale in view of Wang and further in view of U.S. Patent No. 6,163,563 (“Baker”). As discussed above, claim 7 is allowable over the combination of McHale and Wang. Baker does not cure the defects in the teachings of McHale and Wang. Therefore, claim 7 is allowable over the combination of McHale, Wang, and Baker. Claims 8-9 and 15-17 depend from claim 7 and are therefore allowable over the combination of McHale, Wang, and Baker for at least the same reasons as is claim 7.

### **Claims 11-14**

The Examiner rejected claims 11-14 under 35 U.S.C. § 103(a) as being unpatentable over McHale in view of Wang as applied to claim 9, and further in view of U.S. Patent No. 5,844,950 (“Aono”). As discussed above, claim 7 is allowable over the combination of McHale and Wang. Aono does not cure the defects in the teachings of McHale and Wang. Therefore, claim 7 is allowable over the combination of McHale, Wang, and Aono. Claims 11-14 depend from claim 7 and are therefore allowable for at least the same reasons as is claim 7.

### **Claim 23**

The Examiner rejected claim 23 under 35 U.S.C. § 103(a) as being unpatentable over McHale in view of Wang as applied to claim 8, and further in view of U.S. Patent No. 4,599,732 (“LeFever”). As discussed above, claim 8 is allowable over the combination of McHale and

Wang. LeFever does not cure the defects in the teachings of McHale and Wang. Therefore, claim 8 is allowable over the combination of McHale, Wang, and LeFever. Claim 23, which depends from claim 8, is allowable over the combination of McHale, Wang, and LeFever for at least the same reasons as is claim 8.

#### **Claim 24**

The Examiner rejected claim 24 under 35 U.S.C. § 103(a) as being unpatentable over McHale in combination with Wang in view of LeFever as applied to claim 23, and further in view of U.S. Patent No. 6,351,677 B1 (“Leyonhjelm et al.”). As discussed above, claim 23 is allowable over the combination of McHale, Wang, and LeFever. Leyonhjelm does not cure the defects in the teachings of McHale, Wang, and LeFever. Therefore, claim 23 is allowable over the combination of McHale, Wang, LeFever, and Leyonhjelm. Claim 24, which depends from claim 23, is allowable for at least the same reasons as is claim 23.

#### **Claims 25 and 28-29**

The Examiner rejected claims 25 and 28-29 under 35 U.S.C. § 103(a) as being unpatentable over McHale in view of Wang as applied to claim 8, and further in view of U.S. Patent No. 6,121,828 (“Sasaki”). As discussed above, claim 8 is allowable over the combination of McHale and Wang. Sasaki does not cure the defects in the teachings of McHale and Wang. Therefore, claim 8 is allowable over the combination of McHale, Wang, and Sasaki. Claims 25 and 28-29 depend from claim 8 and are allowable over the combination of McHale, Wang, and Sasaki for at least the same reasons as is claim 8.

### **Claims 32-37**

The Examiner rejected claims 32-37 under 35 U.S.C. § 103(a) as being unpatentable over McHale in view of Wang, and further in view of U.S. Patent No. 6,351,293 B1 (“Perlow”). As discussed above, claim 7 is allowable over the combination of McHale and Wang. Perlow does not cure the defects in the teachings of McHale and Wang. Therefore, claim 7 is allowable over the combination of McHale, Wang, and Perlow. Claims 32-37 depend from claim 7 and are therefore allowable for at least the same reasons as is claim 7.

### **Claims 39 and 41-43**

The Examiner rejected claims 39 and 41-43 under 35 U.S.C. § 103(a) as being unpatentable over McHale in view of Wang, and further in view of U.S. Patent No. 5,715,280 (“Sandberg et al.”). As discussed above, claim 38 is allowable over the combination of McHale and Wang. Sandberg does not cure the defects in the teachings of McHale and Wang. Therefore, claim 38 is allowable over the combination of McHale, Wang, and Sandberg. Claims 39 and 41-43 depend from claim 38 and are therefore allowable for at least the same reasons as is claim 38.

### **Claim 44**

The Examiner rejected claim 44 under 35 U.S.C. § 103(a) as being unpatentable over McHale in view of Wang as applied to claim 38, and further in view of LeFever. As discussed above, claim 38 is allowable over the combination of McHale and Wang. LeFever does not cure the defects in the teachings of McHale and Wang. Therefore, claim 38 is allowable over the combination of McHale, Wang, and LeFever. Claim 44, which depends from claim 38, is

therefore allowable over the combination of McHale, Wang, and LeFever for at least the same reasons as is claim 38.

#### **Claim 45**

The Examiner rejected claim 45 under 35 U.S.C. § 103(a) as being unpatentable over McHale in view of Wang. As discussed above, claim 45 is allowable over the combination of McHale and Wang.

#### **Allowed Claims**

The Examiner objected to claims 10, 18-22, 27-28, and 31 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 10, 18-22, 27-28, and 31 all depend from claim 7, which as indicated above is allowable over the cited art. Therefore, Applicant has not amended claims 10, 18-22, 27-28, and 31 in this amendment.

#### **Conclusion**

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 7-45 in condition for allowance. Applicant submits that the proposed amendments of claims 7-45 do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

Furthermore, Applicant respectfully points out that the final action by the Examiner presented some new arguments as to the application of the art against Applicant's invention. It is respectfully submitted that the entering of the Amendment would allow the Applicant to reply to the final rejections and place the application in condition for allowance.

Finally, Applicant submits that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicant submits that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicant therefore requests the entry of this Amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

Dated: February 21, 2007

By: 

Gary J. Edwards

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